

# PATENT ABSTRACTS OF JAPAN

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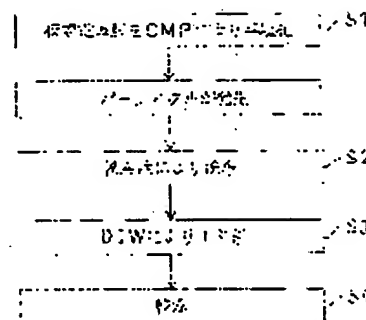
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(54) CLEANING LIQUID AND METHOD FOR PRODUCING SEMICONDUCTOR DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a cleaning liquid for cleaning a substrate in a production process of a semiconductor device and affording sufficient cleaning effects even when a low dielectric constant film containing carbon is used as an interlayer dielectric and to provide a method for producing the semiconductor device including a step of cleaning the substrate using the cleaning liquid.

SOLUTION: The cleaning liquid used for cleaning the substrate on the surface of which the low dielectric constant film (a low-K film) composed of SiOC is exposed comprises 0.01-0.5 mass% of a carboxylic acid



type anionic surfactant, 0.01-0.5 mass% of oxalic acid as a complexing agent and  $\leq 0.1$  mass% of an amine as an alkaline component. The balance is water and an inevitable impurity. The carboxylic acid type anionic surfactant is a polyoxyethylene alkyl ether carboxylic acid having a structure represented by chemical formula  $C_nH_{2n+1}-O-(CH_2CH_2O)_m-CH_2COOX$ .

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## LEGAL STATUS

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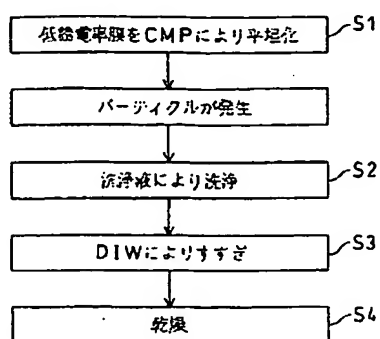
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